

Appendix table 4-31.

**Total expenditures for industrial R&D (financed by company, Federal, and other sources), by industry and size of company: 1997–99**  
(Millions of current dollars)

Industry <sup>a</sup>	NAICS code	1997 <sup>b</sup>	1998 <sup>b</sup>	1999
<b>Distribution by industry</b>				
<b>All industries</b> .....	21–23, 31–33, 42, 44–81	157,539	169,180	182,823
Manufacturing .....	31–33	—	—	116,921
Food .....	311	1,244	1,305	1,132
Beverage and tobacco products .....	312	447	384	D
Textiles, apparel, and leather .....	313–16	378	399	334
Wood products .....	321	26	60	70
Paper, printing and support activities .....	322, 323	D	D	D
Petroleum and coal products .....	324	D	1,395	615
Chemicals .....	325	16,492	18,969	20,246
Basic chemicals .....	3251	1,859	3,610	2,746
Resin, synthetic rubber, fibers, and filament .....	3252	D	D	D
Pharmaceuticals and medicines .....	3254	D	D	D
Other chemicals .....	325 minus (3251–52, 3254)	D	D	D
Plastics and rubber products .....	326	1,484	1,625	1,785
Nonmetallic mineral products .....	327	548	558	D
Primary metals .....	331	992	D	470
Fabricated metal products .....	332	1,906	1,781	1,655
Machinery .....	333	5,610	D	6,057
Computer and electronic products .....	334	33,988	38,209	35,932
Computers and peripheral equipment .....	3341	D	D	D
Communications equipment .....	3342	2,930	8,974	6,003
Semiconductor and other electronic components .....	3344	D	9,131	10,701
Navigational, measuring, electromedical, and control instruments .....	3345	8,030	11,232	14,337
Other computer and electronic products .....	334 minus (3341–42, 3344–45)	543	D	D
Electrical equipment, appliances, and components .....	335	2,741	2,280	D
Transportation equipment .....	336	34,422	31,359	33,965
Motor vehicles, trailers, and parts .....	3361–63	D	D	D
Aerospace products and parts .....	3364	17,865	16,359	14,425
Other transportation equipment .....	336 minus (3361–64)	D	D	D
Furniture and related products .....	337	240	211	248
Miscellaneous manufacturing .....	339	3,457	D	3,851
Medical equipment and supplies .....	3391	3,041	D	D
Other miscellaneous manufacturing .....	339 minus 3391	416	525	D
Other manufacturing .....	31–33 minus (311–16, 321–27, 331–37, 339)	23	D	0
Small manufacturing companies <sup>a</sup> .....	31–33 (with fewer than 50 employees)	2,509	2,316	3,019
<b>Nonmanufacturing</b> .....	21–23, 42, 44–81	—	—	65,902
Mining, extraction, and support activities ..	21	D	D	D
Utilities .....	22	D	D	142
Construction .....	23	241	D	691
Trade .....	42, 44, 45	D	16,492	19,616
Transportation and warehousing .....	48, 49	D	253	460
Information .....	51	10,595	13,581	15,389
Publishing .....	511	7,582	9,589	11,302
Newspaper, periodical, book, and database .....	5111	340	334	371
Software .....	5112	7,242	9,255	10,931
Broadcasting and telecommunications ...	513	D	D	D
Radio and television broadcasting .....	5131	D	D	D
Telecommunications .....	5133	D	D	D
Other broadcasting and telecommunications .....	513 minus (5131, 5133)	12	D	31

See explanatory notes, if any, and SOURCE at end of table.

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Industry <sup>a</sup>	NAICS code	1997 <sup>b</sup>	1998 <sup>b</sup>	1999
Other information .....	51 minus (511, 513)	D	D	D
Finance, insurance, and real estate .....	52, 53	D	D	D
Professional, scientific, and technical services .....	54	12,999	16,168	18,994
Architectural, engineering, and related services .....	5413	2,120	3,180	3,580
Computer systems design and related services .....	5415	D	D	D
Scientific R&D services .....	5417	7,023	9,062	10,470
Other professional, scientific, and technical services .....	54 minus (5413, 5415, 5417)	D	D	D
Management of companies and enterprises .....	55	309	417	D
Health care services .....	621–23	639	617	642
Other nonmanufacturing .....	56, 61, 624, 71, 72, 81	953	2,124	D
Small nonmanufacturing companies <sup>a</sup> .....	21–23, 42, 44–81 (with fewer than 15 employees)	D	2,849	5,203
Number of employees		Distribution by size of company		
Total .....		157,539	169,180	182,823
5 to 25 .....		3,304	4,943	7,004
25 to 49 .....		3,028	3,323	4,750
50 to 99 .....		4,251	6,415	7,225
100 to 249 .....		7,176	8,681	7,213
250 to 499 .....		6,304	6,815	7,892
500 to 999 .....		4,966	5,495	7,032
1,000 to 4,999 .....		19,590	21,525	24,840
5,000 to 9,999 .....		14,266	14,053	16,376
10,000 to 24,999 .....		21,520	24,876	24,922
25,000 or more .....		73,144	73,055	75,569

NAICS = North American Industry Classification System; — = Data not tabulated under NAICS code; D = data have been withheld to avoid disclosing operations of individual companies

<sup>a</sup>The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values but with at least 5 employees were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals.

<sup>b</sup>The totals for “all industries” are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Detail published using NAICS may not add to total. See NOTES.

NOTES: Starting with the 1999 survey, estimates are based on NAICS. In prior years, estimates were based on the SIC system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not representative of the NAICS categories of industries in those years. They are included for comparison purposes only. R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations include funds from other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the Federal Government. Excluded from this table are R&D not performed within the company (e.g., R&D contracted out to other organizations) and R&D not performed in the United States (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation, Division of Science Resources Studies (NSF/SRS), *Research and Development in Industry: 1999*, Early Release Tables (Arlington, VA, 2001).